



Australian Government

FWPSAW3212 Sharpen tipped circular saws

Release: 2

FWPSAW3212 Sharpen tipped circular saws

Modification History

Release	Comments
Release 2	This version released with FWP Forest and Wood Products Training Package Version 3.0.
Release 1	This version released with FWP Forest and Wood Products Training Package Version 2.0.

Application

This unit of competency describes the outcomes required to assess the tipped circular saw blade condition, set up for sharpening and sharpen saw blades with an automated grinder. Work is completed in a forest products factory setting.

The unit applies to Sawdoctor, Saw Repairer.

No licensing, legislative, regulatory, or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Sawmilling and Processing

Elements and Performance Criteria

Element	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Prepare for sharpening	1.1 Review work order and where required check with appropriate personnel. 1.2 Select appropriate repair, maintenance and personal protective equipment and check for operational effectiveness in line with manufacturer's recommendations.

	1.3 Plan sharpening process in line with work order..
2. Assess condition and set up sharpening equipment	2.1 Follow organisational safety procedures throughout all maintenance and repair processes. 2.2 Remove tipped circular saw blades or fit appropriate equipment to be sharpened in machinery. 2.3 Assess cutting performance of blade and determine need to replace or sharpen. 2.4 Assess condition of prior repairs, teeth and straightness of blade. 2.5 Select sharpening machine with suitable wheel diameter and change or dress grinding wheel. 2.6 Adjust machine settings to suit required blade geometry and set blade to manufacturer's recommendations. 2.7 Set up saw while in machine to ensure tooth profile and geometry are maintained.
3. Sharpen tipped circular saw blade	3.1 Prepare grinding coolant system in line with manufacturer's instructions. 3.2 Select saw and grinding wheel angles, speeds and feeds to suit. 3.3 Grind teeth face and gullet to achieve required finish, maintaining original profile and pitch, according to industry standards. 3.4 Ensure variations in tooth height and depth of cut are within industry tolerances for concentricity. 3.5 Set wheel feeds and saw to minimise wear and avoid burn marks. 3.6 Dispose of unserviceable tipped circular saw blades in line with environmental protection practices. 3.7 Identify routine processing and equipment faults and resolve or report to appropriate personnel.

Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	- complete precise calculations to machine teeth to correct: - angle - pitch - height - depth.
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Oral communication skills to:	ask open and closed probe questions and actively listen to clarify content of work orders.
Reading skills to:	- interpret documents: - workplace health and safety and other organisational procedures - work orders - manufacturers' instructions and maintenance recommendations.
Writing skills to:	complete basic accurate records for processing and equipment faults.
Planning and organising skills to:	efficiently and logically sequence the stages of preparation and repair work using work order to guide activities.
Problem-solving skills to:	- assess blade condition and rectify faults through correct sharpening process - identify and dispose of unserviceable blades - recognise faulty equipment and resolve by reporting or rectifying.
Technology skills to:	- select and use appropriate repair, maintenance and personal protective equipment for sharpening tipped circular saw blades - efficiently and safely sharpen tipped circular saw blades.

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPSAW3212 Sharpen tipped circular saws Release 2	FWPSAW3212 Sharpen tipped circular saws Release 1	Minor typographical errors corrected.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPSAW3212 Sharpen tipped circular saws

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Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- follow organisational policies and procedures relevant to sharpening tipped circular saws
- sharpen tipped circular saws in line with the work order and within prescribed organisational requirements
- remove and replace tipped circular saw blades from equipment
- assess the condition of blade teeth for:
 - sharpness of each tooth
 - damage to teeth
 - pitch
 - number of teeth per metre.

Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- purpose, features and operation of circular saws for which tipped blades are sharpened:
 - circular saws
 - hot saws
 - cold saws
- features and names of different parts of circular saw blades
- purpose, features and operation of tools and equipment used to sharpen tipped circular saw blades:
 - manually or automatically adjustable grinding machines

- abrasive wheels
- importance of sharpening and setting teeth and tension to match requirements for:
 - characteristics of various materials sawn
 - speed of the sawing process
 - direction of the sawing process
 - cutting angle for sawing
 - saw blade specifications
- methods for:
 - removing saw blades from circular saws
 - assessing saw blade condition
 - sharpening blades to specified requirements
 - setting teeth to a specified profile
 - setting concentricity of teeth
- tooth pitch and tooth angles at which blades are sharpened (blade geometry)
- range of speeds at which abrasive wheels can be operated without damaging blades
- organisational policies and procedures specific to sharpening tipped circular saw blades:
 - workplace health and safety with particular emphasis on equipment lock out and use of personal protective equipment
 - communication reporting lines
 - recording and reporting processing and equipment faults
- environmental protection practices for repairing and maintaining tools and equipment in forest products factory settings:
 - reducing water and energy use
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials

Assessment Conditions

The following resources must be made available:

- tools and equipment used to sharpen tipped circular saw blades:
 - manually or automatically adjustable grinding machines
 - abrasive wheels
 - measuring tools equipment
- circular saws for which blades are to be sharpened:
 - circular saws
 - hot saws
 - cold saws
- tipped circular saw blades for sharpening
- replacement tips:
 - tungsten carbide

- satellite
- other alloyed materials; high speed steel
- personal protective equipment suitable for sharpening tipped circular saw blades
- manufacturers' instructions for use, repair and maintenance of equipment
- work order for repair and maintenance activities with specific instructions for sharpening tipped circular saw blades in specified equipment
- documents, spreadsheets and commonly used proformas for recording processing and equipment faults
- relevant personnel for the purposes of communicating information
- organisational policies and procedures for sharpening tipped circular saw blades.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.
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